

THE OHIO FARM REAL ESTATE SITUATION, 1953

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## Summary

1. Throughout the decade of the 1940's farm real estate prices were in the process of "catching up" with the inflated farm product prices and farm income. But the following is an important consideration; currently it appears that about twice the gross cash income now is needed to support a given level of farm real estate values as compared with 40 years ago.
2. Farm real estate now represents a smaller share of the total value of physical assets of farmers than in any previous period.
3. The physical amount of farm products needed to purchase an acre of land was unusually low throughout much of the 1940's. This relationship varied materially from time to time for specific products. In general, more farm products now are needed to purchase an acre of land than during the period of 1935-1950.
4. The farm real estate market was active from 1941 to 1948. Since then the rate of activity has dropped to about the same level as existed from 1935-1939.
5. During the 1940's the net flow of land was into the ownership of active farmers; tenancy declined but part-owners increased.
6. In the past decade small tracts have increased relatively more in price than large tracts. Suggested reasons: the price of small farms more sharply reflect the increase in construction cost of buildings; site value due to location; desire of farmers to enlarge operating units.
7. Farm mortgage debt has been on the increase since 1946. But it still is lower than any time in the period of 1920 to 1940. Less than 60 percent of the farm purchases are mortgage financed.
8. A very high proportion of new mortgage loans now provide a plan for amortization of the principal.
9. Farm mortgage interest rates still range from less than four up to six percent. But in the last year a smaller proportion of the loans have been at the lower rates.
10. Agricultural Census of 1950 indicates the following: The average size of all Ohio farms was 105.2 acres in 1950 as compared with 99.4 acres in 1945. The typical commercial farm unit is somewhat larger than this average, but many units are smaller. Land values vary materially from one economic area to another and with the size of farm in the various areas. Density of population and productive capacity of the land are two important factors.
11. Average per acre farm real estate values indicated by the Census from 1850 to 1950 portray the development of the agricultural land in the various counties as well as the changes in the level of prices in the past century.

## THE OHIO FARM REAL ESTATE SITUATION

This is a good time to take a look at the farm real estate situation. Now that the big inflationary push seems again to have passed, what is the relative position of farm real estate in the general price structure? A general view is desirable because all real estate values have been affected by inflation. But the effect has not been uniform. This lack of uniformity shows up in various ways which are brought out to some extent by a study of the farm real estate market in a few sample areas. Also, let us take a look at the use of mortgage credit. Debt is a critical factor in an inflationary-deflationary cycle. Finally, farm real estate values differ so much from one locality to another that information needs to be narrowed down to a local basis so far as possible. The Census in 1950 and in some other years provides average farm real estate value figures by counties.

The purpose of this publication is to pull together information as mentioned above, on Ohio Farm Real Estate values.

### Farm Real Estate Prices - A Resume' Since 1940

In the 12 years 1941-1952 inclusive, farm real estate prices advanced at an average rate of about one percent a month. A leveling-off in 1949-50 marked what then appeared to be the end of post-war land price inflation. Then the Korean incident brought more inflation. Again, this appeared to have run its course by mid-1952.

At no time in these 12 years did farm real estate prices lead the inflationary spiral. From a long-term view land was relatively under priced during the 1930's and was in the process of catching up to the farm commodity and income level during the 1940's. As a whole the real estate market exhibited conservatism and functioned in a satisfactory manner. Land speculation was of minor importance throughout the 1940's. Re-sales for profit were discouraged by the tax on capital gains. Most land buyers purchased to operate personally or to hold as a long-term investment. Farm mortgage debt commitments were kept within reasonable bounds. The chief cause for concern is that farm real estate values now are geared to a high general price level. The big question is the uncertain course of all prices the next few years.

### Relationship of Farm Real Estate Prices to Cash and Net Farm Income

To gain a little more perspective, let us look at the trend of the average price per acre of Ohio farm real estate the past 40 years. As illustrated in Figure I, why the widening gap between farm real estate prices and cash farm income? The most plausible answer lies in the fact that income-expense relationships have changed materially. A larger share of the farmer's gross income now flows into the purchase, maintenance, and operating expense of farm machinery; wage rates are higher; more goes for family living; and finally, more is paid directly or indirectly as taxes. The combined impact of all these things

can be summed up as follows: in recent years it appears that about twice the cash farm income is needed to support a given level of land values as compared with 40 years ago.

The present indications are that farm real estate prices are responding rather promptly to changes in farm products prices either up or down. This was well demonstrated in 1949-50 and again in the latter half of 1952 and first quarter, 1953. At both times a dip in farm commodity prices and consequently in the net cash farm income was followed in a few months by a softening in farm real estate prices. In short, real estate was fairly well in balance with the general price and income relationships as these existed up to 1952.

Real Estate Prices and Net Farm Income. - In an initial period of rising prices the farmer's net income may increase relatively more than his gross income. This was particularly well demonstrated from 1916 to 1919 and may help to explain the land price boom of 1919-1920 (see Figure I). From 1940 to 1947 the rate of increase in net farm income about kept pace with the rise in gross farm income. In response, land prices rose gradually but steadily. Beginning with 1948 cash expenses have taken a proportionately larger share of the gross cash income. But the fact that net farm income in recent years is still relatively high as compared with farm real estate indicates that proportionately less of the net farm earnings now are being capitalized into land prices. More is used for living expenses, operating expenses, and for non-real estate investments as has been mentioned.

#### The Physical Assets of Farmers<sup>1/</sup>

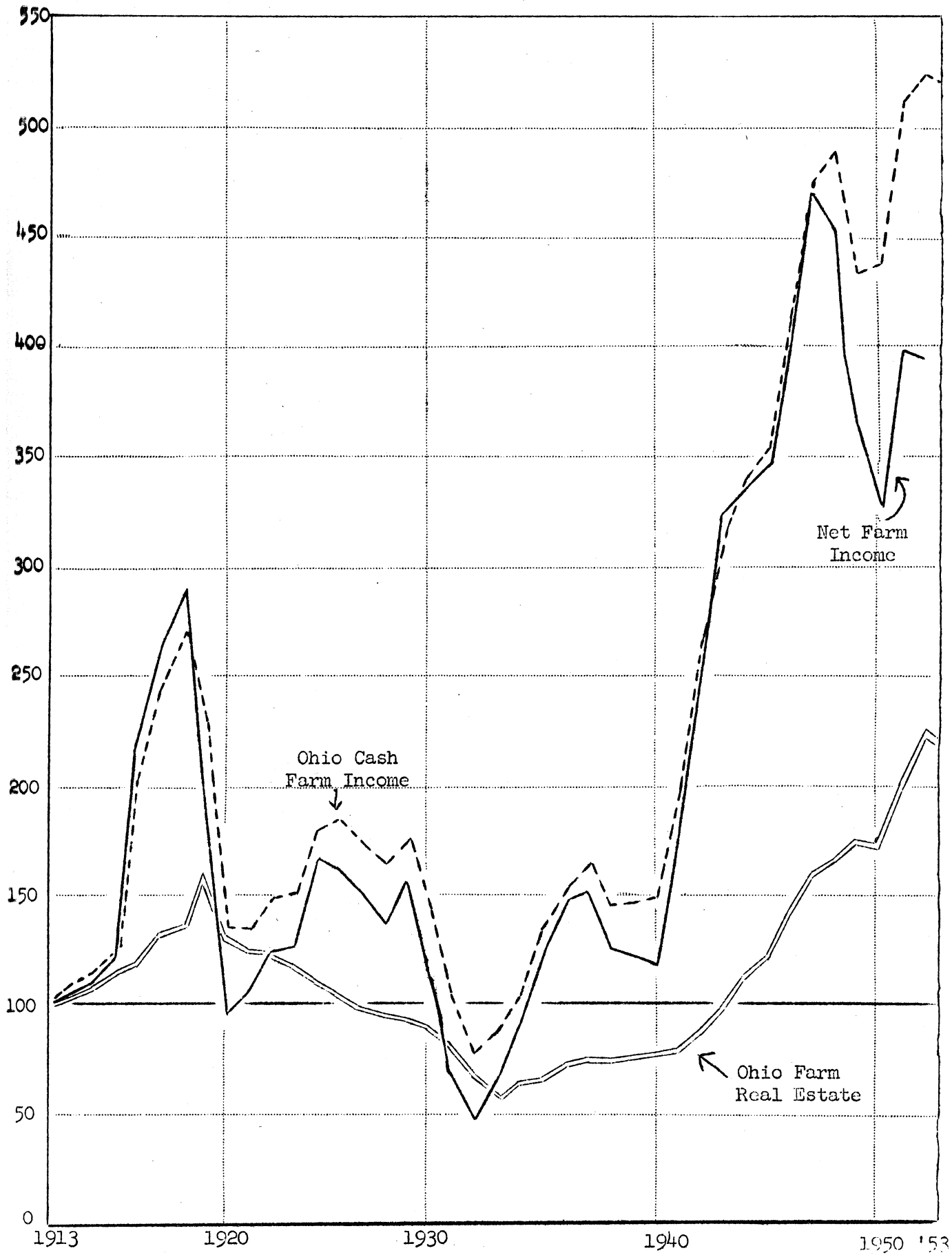
The widening gap indicated in Figure I between farm real estate prices and cash farm income is explained in part by the increase in certain types of assets other than real estate owned by farmers. If we ignore the matter of farm improvements the volume of the farmer's physical wealth represented by real estate now is about the same as in 1940. The physical quantity of livestock on farms also was about the same in 1940 as in 1952. But in these 12 years machinery and motor vehicles increased 121 percent in physical volume and 391 percent in value. Household furnishings and equipment increased 79 percent in both volume and value. The foregoing simply illustrates the fact that relatively more of the farm income realized in recent years has been spent for machinery and other items used in production and in family living and that relatively less is finding its way into the capital value of farm real estate.

The index numbers, Table I, are given primarily to provide a current view of farm real estate prices and some other prices affecting the farm business. When put on a 1935-39=100 base it may be seen that only two items in this series have risen more than farm real estate within the span of the past ten years. Cash farm income is higher partly because of price increases in the things farmers sell and partly because of a 40 to 45 percent increase in physical output per man. The other

<sup>1/</sup> Derived from the Balance Sheet of Agriculture, Agriculture Information Bulletin No. 90, U. S. D. A., July 1952.

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**Figure.1. - Relative Trends in Farm Real Estate Prices and in Cash and Net Farm Income, Ohio, 1913-1953**  
 (1910-1914 = 100)



farm wages, has increased the most. Although farm operators now hire less labor than ten years ago, farm wage rates have gone up more than any other type of expense. And it is reasonable to assume that farm operators and their families likewise must have more for their services or they will seek other employment. This fact acts as a brake on land prices. The latter, as has been mentioned, appear to be fairly well in balance with other prices at the levels indicated in 1951 and 1952.

TABLE 1. - INDEX NUMBERS OF PRICES AFFECTING THE FARM BUSINESS AND INFLUENCING THE VALUE OF FARM REAL ESTATE  
(1935-1939=100)

	WHOLESALE PRICES U.S.	FARM PRODUCTS U.S.	OHIO FARM PRODUCTS	PRICES PAID BY FARMERS U.S.	OHIO FARM WAGES	OHIO CASH FARM IN- COME	OHIO FARM REAL ESTATE
1935-1939	100	100	100	100	100	100	100
1940	97	93	89	99	107	99	107
1941	108	115	114	106	128	128	111
1942	122	148	144	122	160	180	124
1943	127	179	174	136	200	221	135
1944	128	183	175	146	224	235	154
1945	131	188	183	151	248	243	168
1946	150	219	215	166	285	286	194
1947	188	259	262	192	316	330	219
1948	204	266	268	207	356	338	231
1949	192	233	223	200	356	287	243
1950	200	239	223	205	350	305	239
1951	224	281	270	224	387	361	278
1952	213	272	261	230	414	363	310
LAT 4 MONTHS							
1953	211	246	233	224	413	345	308

Amount of Farm Commodities Needed to Purchase an  
Acre of Land (See Table 2)

How much grain, milk, or meat is needed to purchase an acre of land? This will vary of course with the quality of the land as well as with the ups and downs of various commodity prices. For purposes of illustration, however, some comparisons are set up in Table 3 based on average land prices in a western Ohio county (Darke) and average Ohio prices for the various products. In terms of volume of most of these commodities indicated in the table, land was cheapest in the period of 1942-44 and again in 1947. A little softness in farm real estate prices exhibited in the latter half of 1952 appeared to be a reaction to the softness in some farm product prices. The figures indicate that as measured by most staple farm products land was a little higher priced in 1952 than in most of the previous 12 years.

TABLE 2, - AVERAGE PRICE OF FARM REAL ESTATE IN A SELECTED WESTERN OHIO COUNTY (DARKE)  
COMPARED WITH AVERAGE OHIO PRICES OF SPECIFIC FARM PRODUCTS

	PRICE OF LAND (DOLLARS PER ACRE)	CORN (DOLLARS PER BU.)	WHEAT (DOLLARS PER BU.)	SOYBEANS (DOLLARS PER BU.)	MILK (DOLLARS PER CWT.)	BEEF CATTLE (DOLLARS PER CWT.)	HOGS (DOLLARS PER CWT.)
1935-39	76	.67	.87	.94	1.82	7.71	8.89
1940	81	.61	.85	.84	1.78	8.06	5.73
1941	84	.71	.95	1.21	2.25	9.26	9.52
1942	87	.81	1.17	1.65	2.66	11.19	13.48
1943	102	1.01	1.52	1.68	3.25	12.72	14.42
1944	116	1.13	1.56	1.90	3.32	11.90	13.56
1945	139	1.13	1.63	2.08	3.27	13.32	14.42
1946	160	1.56	2.03	2.48	4.19	15.70	18.40
1947	176	2.16	2.36	3.38	4.46	20.60	25.10
1948	185	1.25	2.09	2.30	5.06	23.50	24.00
1949	184	1.25	1.80	2.16	3.85	21.40	18.90
1950	208	1.65	2.01	2.45	3.85	23.90	18.60
1951	243	1.75	2.20	2.75	4.67	29.50	20.70
1952	274	1.60	2.00	2.85	4.93	27.10	18.70

TABLE 3. - PHYSICAL AMOUNT OF SPECIFIC FARM PRODUCTS AT  
AVERAGE PRICES NEEDED TO PURCHASE AN AVERAGE  
ACRE OF LAND, DARKE COUNTY, OHIO

	CORN (BUSHEL)	WHEAT (BUSHEL)	SOYBEANS (BUSHEL)	MILK (POUNDS)	BEEF CATTLE (POUNDS)	HOGS (POUNDS)
1935-39	114	87	81	4176	986	855
1940	134	95	96	4551	1005	1414
1941	119	89	70	3733	907	882
1942	117	74	53	3271	777	645
1943	101	67	61	3138	802	707
1944	103	74	61	3494	975	855
1945	123	85	67	4251	1044	964
1946	103	79	65	3819	1019	870
1947	81	75	52	3946	854	701
1948	148	89	80	3656	787	771
1949	147	102	85	4779	860	974
1950	126	103	85	5403	870	1118
1951	138	110	88	5203	824	1174
1952	171	137	96	5558	1011	1465
12 YR. AV. 1940-51	120	87	72	4104	894	923

### Farm Real Estate Market Activity

As usually thought of market activity is measured by the frequency of transfers where the consideration represents full market value. But such transactions represent only a part of the total farm real estate transfers. Let us consider this point a little further.

As an average proposition the title to about seven percent of Ohio's farms is transferred each year, but the rate has fluctuated between five and nine percent since 1928. When the farm real estate market is very active, as from 1943 to 1948, about three-fourths of the transfers are voluntary sales and trades and the remaining fourth will be by inheritance, gift, settlement of estates, forced sales, and related defaults. When the market is inactive these proportions may be reversed.

1952 was the fourth consecutive year in which the farm real estate market could be regarded as inactive as compared with the rest of the period since 1941. The number of voluntary transactions as indicated in a few sample counties (see below) was only three percent less than in 1951. For the past four years the slowness of the market has been associated with a reluctance of owners to sell at going prices. This reluctance has been attributed to: (1) a sentiment that farm real estate was a good place to have a capital investment in view of the inflationary trend; (2) the tax on capital gains; (3) particularly the better farms have continued to earn a satisfactory return. More recently a little slackening on the demand side, particularly on the part of those seeking an investment has narrowed the market. On the supply side owners have been reluctant to lower asking prices.

Number of Sales of Farm Real Estate, Ten Acres or More,  
Darke, Madison, and Muskingum Counties, 1941-1952

<u>Year</u>	<u>Number</u>	<u>Relative Number</u>
1941	476	100
1942	484	102
1943	828	174
1944	658	138
1945	660	139
1946	727	153
1947	679	143
1948	532	112
1949	348	73
1950	446	94
1951	347	73
1952	337	71



### Current Market Activity and Price

In the above mentioned counties (plus Fayette which has been added to the sample area), the number of farm real estate sales was the same in the first quarter of 1953 as in the first quarter of 1952.

In these counties the average price per acre the first quarter of 1953 was five percent under the peak reached in the second quarter of 1952.

### Price Trends of Different Qualities of Land

In the period of 1941 to 1944 some evidence indicated that the poorer grades of agricultural lands were advancing in price relatively more than the best land. In contrast, recent opinions (1953) are that the better agricultural lands now are holding up in price better than the lower quality lands. Looking at the entire period of 1941 to 1952, actual sales of farm real estate indicate that at least about the same relative price differential existed between the better and poorer lands in 1951-52 as in 1941 to 1943 inclusive. To illustrate: sales of farm real estate, 30 acres and up, were sorted into four equal sized classes based on quality of land as indicated by the tax valuation of the land. In Darke and Madison counties, taken as representative of the western Ohio corn belt, the following price differential prevailed in the average price per acre in two periods:

	<u>Grade of Land</u>			
	<u>#1 (best land)</u>	<u>#2</u>	<u>#3</u>	<u>#4 (poorest land)</u>
1941-43	\$110 (100%)	\$ 97 (88%)	\$ 86 (78%)	\$ 65 (59%)
1951-52	313 (100%)	262 (84%)	236 (75%)	184 (59%)

The one county sample area in eastern Ohio (Muskingum) exhibited a somewhat similar pattern although the price differential is relatively more because of the wider range in quality of land:

	<u>Grade of Land</u>			
	<u>#1 (best land)</u>	<u>#2</u>	<u>#3</u>	<u>#4 (poorest land)</u>
1941-43	\$ 48 (100%)	\$34 (71%)	\$27 (56%)	\$19 (40%)
1951-52	143 (100%)	99 (69%)	78 (55%)	66 (46%)

It is suggested that the recent active interest in minerals (oil, gas, coal) and the demand for rural homes may have had some influence on the price of the poorer lands in this latter county. It is also suggested that in all these counties the variations in price differentials between the two periods are too slight to indicate any positive change in the demand for the different qualities of land in the past 12 years.

### Sellers of Farm Real Estate

From 1941 to 1946 persons classed as non-farmers made 39 percent of the sales; active farmers, 31 percent and the remaining sellers represented settlement of estates and sales by corporate owners. A similar check in 1951 and 1952 indicated nearly half (49 percent) the sellers to be active farmers (including part-time farmers), non-farmers has declined to 30 percent and the remaining 20 percent was accounted for almost entirely by settlement of estates.

So far as could be determined by local inquiry the reasons persons classed as farmers sold farm real estate in 1952 could be classified as follows: retirement, 29 percent; reduce size of farm, 17 percent; obtain a different farm, 19 percent; change occupation, 14 percent; change investment, 21 percent.

### Buyers of Farm Real Estate

In 1951 and 1952 persons classed as non-farmers made 30 percent of the farm purchases. This compares with 37 percent in the years, 1945 and '46. In 1951 and 1952, 38 percent of the buyers were classed as full time farmers; 12 percent were part-time farmers; 20 percent were tenants and other farmers (or farmers' sons). These three classes of farmers made a total of 70 percent of the purchases.

The principal significance of the above figures in respect to buyers and sellers is that the net flow of ownership has been into the hands of owner-operators. It may also be taken into account that in the past few years the proportion of buyers who were tenants has declined because a smaller proportion of our farmers are tenants.<sup>2/</sup> In contrast, the number of buyers who already own some land has tended to increase. About half the land purchased by farmers the past two years was to increase the size of farm.

<sup>2/</sup> Proportion of Ohio farm operators who were tenants at various census dates:

1880 - 19.3%	1930 - 26.3%
1890 - 22.9%	1935 - 28.9%
1900 - 27.4%	1940 - 26.3%
1910 - 28.4%	1945 - 21.8%
1920 - 29.5%	1950 - 17.9%
1925 - 25.5%	

### Price Trends of Different Sized Tracts

The general inflationary trend has not affected all things equally. In respect to farm real estate this has shown up since 1940 as a tendency for small tracts to increase in price somewhat more in relative terms than larger tracts. This may be explained mainly by the fact that a larger share of the value of small tracts is in buildings which reflect the trend in construction costs. Also the price of many small tracts is based on value as a place to live rather than agricultural production and therefore are competitively priced with urban residences. Also, small tracts often are bid up in price by adjacent landowners who wish to enlarge the size of their operating units.

Some figures are given in Table 4 to illustrate what has been said above. It may be emphasized that small holdings and part-time farms play a relatively important part in the Ohio farm real estate value structure. According to the 1950 Census 65,575 of Ohio's farm operators, 33 percent of the total, received more of the family income off the farm than from the farm in 1949.

TABLE 4. - PRICE TRENDS OF DIFFERENT SIZED TRACTS OF FARM REAL ESTATE, THREE-COUNTY SAMPLE AREA,\* OHIO, 1941-1952

YEAR	SIZE CLASSES			
	10 TO 49 ACRES	50 ACRES OR MORE	10-49 ACRES	50 ACRES OR MORE
	AVERAGE PRICE PER ACRE (DOLLARS)		RELATIVE CHANGE IN PRICE PER ACRE (1941 = 100)	
1941	85	63	100	100
1942	99	66	116	105
1943	118	79	139	125
1944	146	87	172	138
1945	168	98	199	156
1946	196	94	231	149
1947	214	105	252	167
1948	245	118	288	187
1949	242	136	285	216
1950	257	149	302	237
1951	298	157	351	249
1952	326	144	384	229

\* DARKE, MADISON, AND MUSKINGUM.

### Farm Mortgage Debt

Debt is one of the more critical points in an inflationary-deflationary cycle. Let us look first at the general farm mortgage debt situation and then at what is happening in a few sample counties. Information from the latter points up some factors which determine whether or not the farm debt situation is developing tendencies which forecast trouble or the reverse.

Ohio's estimated total outstanding farm mortgage debt exceeded the \$200 million mark January 1, 1952. The historical high and low spots

are indicated below:

1910 - \$114,870,000  
 1923 - 270,081,000  
 1930 - 272,738,000 - High  
 1934 - 220,731,000 - Low  
 1940 - 239,059,000 - High  
 1946 - 160,916,000 - Low  
 1952 - 200,770,000

In terms of burden, present mortgage debt still is light because of higher prices. But the record pay-off during the 1940's is now replaced by a more extensive need for long-term mortgage credit, a \$40 million increase in the past six years. Despite this increase the use of mortgage credit to buy land has remained conservative when viewed in terms of the current price level or in the proportion of buyers using mortgage financing. This point is illustrated by the information assembled from three sample counties and summarized in Table 5. The figures indicate that less than 60 percent of the land purchases are being mortgage financed. Mortgage debt per acre has increased somewhat less than have land prices.

TABLE 5. - COMPARISON OF MORTGAGED AND MORTGAGE FREE TRACTS,  
 FARM REAL ESTATE PURCHASES IN THREE SAMPLE COUNTIES,  
 1941-1952

		1941- 1942	1943- 1944	1945- 1946	1947- 1948	1949	1950	1951	1952
TRACTS MORTGAGED	(NO.)	406	697	752	666	199	235	192	195
TRACTS NOT MORTGAGED	(NO.)	331	563	662	570	145	209	155	143
PROPORTION OF TRACTS MORTGAGED	(PCT.)	55	52	53	54	58	53	55	58
AV. SIZE OF MORTGAGE TRACTS	(ACRES)	86	82	80	83	88	79	85	80
AV. SIZE OF MORTGAGE-FREE TRACTS	(ACRES)	82	78	74	71	76	76	72	69
AV. PURCHASE PRICE PER ACRE:									
OF MORTGAGED TRACTS	(DOLLARS)	70	87	106	121	123	170	179	168
OF MORTGAGE-FREE TRACTS	(DOLLARS)	67	78	101	118	138	145	163	144
AV. DEBT PER ACRE, MORTGAGE TRACTS	(DOLLARS)	43	55	60	70	69	90	98	87
AV. BUYERS EQUITY IN MORTGAGED TRACTS	(PCT.)	39	37	43	42	44	47	45	48
RELATIVE CHANGE IN PURCHASE PRICE PER ACRE: (1941-43 PRICE = 100)									
OF MORTGAGED TRACTS	(PCT.)	100	124	151	173	176	243	256	240
OF MORTGAGE-FREE TRACTS	(PCT.)	100	116	151	173	206	216	244	215
RELATIVE CHANGE IN DEBT PER ACRE: (1941-42 DEBT = 100)									
OF MORTGAGED TRACTS	(PCT.)	100	128	140	163	160	209	228	202

\* THESE FIGURES ARE NOT ADJUSTED TO COMPENSATE FOR VARIATIONS IN QUALITY OF LAND AND IMPROVEMENTS.

As a result the average buyer's equity in 1952 was 48 percent of the purchase price as compared with a range of 37 to 47 percent in the previous 11 years. Lower farm income for a period of years could be a serious matter to some farmers; but the information so far assembled does not indicate widespread debt difficulties. This view is further

supported by the following information on length of loans and terms of repayment.

Length of Loan (Darke, Madison, and Muskingum Counties)

In every year from 1947 to 1952 inclusive a third or more of the farm real estate mortgage loans were for five years or less. Many of these are small loans and are situations where repayment is not fully dependent on farm income. On the other hand, loans running for ten years or longer increased from 28 percent of the loans in 1947 to 47 percent in 1952.

LENGTH OF LOAN	YEAR IN WHICH MORTGAGE WAS GIVEN					
	1947	1948	1949	1950	1951	1952
- PERCENT OF LOANS -						
ONE YEAR OR LESS	8	11	9	10	4	6
2 TO 4 YEARS	12	8	8	10	10	8
5 YEARS	27	23	32	25	26	19
6 TO 9 YEARS	6	2	5	2	5	1
10 YEARS	19	26	12	19	15	19
MORE THAN 10 YEARS	28	30	34	34	40	47
TOTAL (PERCENT)	100	100	100	100	100	100

Terms of Repayment (New Loans, Three Counties)

Most farm mortgage loans now carry some plan for periodic installment payments on the principal. From 1947 to 1951 nearly half the loans (where the plan of repayment was given) were fully amortized and another fourth partially amortized. In 1952, however, 75 percent were fully amortized and 18 percent were partially amortized. Some mortgage contracts do not state the terms of repayment in the public record. Most of these are loans by institutional lenders who nearly always use either partial or full amortization plans. Therefore the presumption is that well over 90 percent of the recent farm real estate mortgage loans in the area studied carried some plan for an orderly reduction of the principal.

The Sources of Mortgage Credit

No significant changes have developed in respect to the sources of mortgage credit the past several years as revealed by the study in sample counties. Of 586 mortgages used to finance the purchase of land, in 1950 to 1952 inclusive, the credit was advanced from the following sources: seller, 13 percent; other individual, 13 percent; commercial bank, 26 percent; insurance company, 9 percent; Federal Land Bank, three percent; other institutional lenders - principally savings and

loan companies, 26 percent.

The principal significance of the above figures is that a relatively large proportion of the credit has been from sources equipped to finance over short and intermediate periods rather than long periods. This may lead to some demand for re-financing. Records the first quarter of 1953 indicate a higher proportion of the new loans to be from institutions advancing long-term mortgage credit.

### Interest Rates

Interest rates have tended to rise the past two years. United States average interest rates on farm real estate loans were reported to be 4.7 percent in 1951 and 1952 as compared with a low of 4.4 percent in 1942 to 1944 inclusive.<sup>3/</sup> As revealed by the records of mortgages used to finance farm real estate purchases in a few Ohio counties, interest rates on loans continue to range from three to six percent. But in the past year or two relatively fewer of the loans were granted at the lower rates. The following figures indicate the percentage of loans made at various rates:

#### Annual Interest Rate

Year	Less than				
	4%	4%	4.5%	5%	6%
	Percent of loans made at the various rates				
1950	2	45	8	32	13
1951	1	20	15	45	19
1952	4	24	5	33	34

### Trend in Size of Farms

As mentioned previously, about 50 percent of the current land purchases by Ohio farmers are to increase size of farm.

Due mainly to the advantages gained by mechanization the average size of the typical commercial farm has tended to increase through the years. This tendency has been partially obscured by a counter-tendency arising from the demand for small acreages as sites for rural homes, part-time farms or subsistence farms. Under the influence of all these tendencies the average size of all farms in Ohio fluctuated between 90 and 100 acres during the quarter century between 1920 and 1945, according to the Census. In 1950 the average size of all farms had increased to about 105 acres, as indicated by the following figures:

<sup>3/</sup> United States average rates, as reported in the Agricultural Finance Review, Vol. 15, November 1952.

1920 - 90.2 acres  
 1925 - 90.8 acres  
 1930 - 98.1 acres  
 1935 - 89.6 acres

1940 - 93.7 acres  
 1945 - 99.4 acres  
 1950 - 105.2 acres

While the average size of all farms in Ohio undoubtedly increased from 1945 to 1950, the increase was somewhat less than indicated by these figures. The Census definition of a farm was changed in 1950 with the result that some smaller places, counted as farms in 1945, were not counted in 1950.<sup>4/</sup> A more accurate perspective of what is happening to the size of farm can be obtained by comparing the number of farms in different size groups as reported by the Census: (see Table 6).

TABLE 6. - NUMBER OF FARMS IN VARIOUS SIZE CLASSES;  
 AGRICULTURAL CENSUS, OHIO, 1920 TO 1950

SIZE CLASS ACRES	NUMBER OF FARMS						
	1950	1945	1940	1935	1930	1925	1920
UNDER 10	18,683	23,350	23,197	25,904	12,550	15,844	15,867
10 TO 29	23,636	29,061	29,177	33,366	x	x	x
30 TO 49	19,440	21,725	24,248	27,877	x	x	x
50 TO 99	51,238	57,299	67,950	75,470	71,160	81,537	86,337
100 TO 179	54,284	58,284	62,820	67,181	x	x	x
180 TO 259	18,919	19,240	17,281	17,027	x	x	x
260 TO 499	10,550	10,102	8,006	7,345	6,888	6,062	6,402
500 TO 999	1,421	1,335	966	868	791	664	728
1000. & OVER	188	179	137	108	104	96	105

x NOT AVAILABLE.

Very small farms, under 10 acres, increased in number slightly from 1940 to 1945 but decreased sharply in 1950. Farms in the next size group, 10 to 29 acres, gradually decreased in number from 1935 to 1945 but also decreased sharply in 1950. Some of the decrease in the number of small farms (and probably a considerable part of the decrease) resulted from the changed census definition mentioned earlier, rather than from a real decrease in number.

<sup>4/</sup> Some of the decrease in number of farms under 10 acres is the result of a changed census definition of a farm. In 1945, any place of three or more acres on which there were agricultural operations was counted as a farm. In that year, places with limited agricultural operations were counted if three or more acres were in cropland or pasture.

In 1950, places of three or more acres were included only if the value of products was \$150 or more. Hence, some places of three or more acres which were included in 1945 were not included in 1950 because the value of products was less than \$150.

The effect of this definition change upon numbers was probably greatest in the under 10 acres size group. The effect probably continued into the 10 to 29 acre group, but it is doubtful whether larger size groups were appreciably affected.

All size groups from 10 up to 180 acres have shown a decline in numbers from 1935 to 1950. Farms in the 180 to 259 acre group increased in number from 1935 to 1945, but even this group declined slightly from 1945 to 1950. Farms of 260 acres and up have increased in numbers. As a percent of all farms in Ohio, farms in all size groups of less than 100 acres declined from 1945 to 1950 while farms in all size groups of 100 acres and over increased during the same period, indicating a continuing upward trend in size of farm. The active farm real estate market of the past several years has apparently accelerated the rate of adjustment in size of farms. On the other hand, because a farm operating unit may be all owned, part rented or all rented, the fact of ownership and transfer of title cannot be conclusively associated with the size of farm as an operating unit.

### Relative Significance of Different Sized Farms

In terms of volume of production, land area, or property value, the smaller sized farms account for a relatively small part of Ohio's agriculture. In terms of the number of holdings or people associated with different sized farms the smaller unit becomes more significant. For example, in 1950, 31 percent of the farms in Ohio were less than 50 acres in size. These farms, however, accounted for less than seven percent of the land area in farms. The figures (Table 7) derived from the 1950 Agricultural Census of Ohio provide some comparisons.

TABLE 7. - PROPORTION, ACREAGE AND VALUE OF OHIO FARMS IN VARIOUS SIZE CLASSES, 1950

SIZE CLASS	NUMBER OF FARMS	PERCENT OF FARMS	ACRES IN CLASS		VALUE PER FARM (DOLLARS)	VALUE PER ACRE (DOLLARS)
			TOTAL	PERCENT		
ALL FARMS	199,359	100.00	20,969,411	100.00	14,575	136.34
UNDER 10 ACRES	18,683	9.37	93,990	.45	7,058	1,327.03
10-29 ACRES	24,636	12.36	439,288	2.09	7,385	404.13
30-49 "	19,440	9.75	760,155	3.63	7,529	190.53
50-99 "	51,238	25.70	3,789,464	18.07	10,153	137.28
100-179 "	54,284	27.23	7,210,536	34.39	16,005	120.49
180-259 "	18,919	9.49	4,010,357	19.12	25,828	121.84
260-499 "	10,550	5.29	3,477,489	16.58	40,381	121.03
500-999 "	1,421	.71	901,480	4.30	68,118	107.27
1000 & OVER	188	.10	286,652	1.37	200,832	129.19

It is difficult to single out any one size farm as being most nearly typical. The most typical size of farm when all farms are considered would probably fall in the 50 to 99 acre group, which accounted for one-fourth of the total farms. This is somewhat smaller than the average sized farm which has been mentioned, being influenced by the large number of very small farms.



If only commercial farms were considered, by disregarding small rural residences and small part-time farms, the typical size of commercial farm would fall within the 100 to 179 acre size class. This would be somewhat larger than the average size of all farms.

The high value per acre indicated for small farms is due in part to building value and partly to location nearer to centers of population than the average of all farms. Many of these small holdings are not typical productive units but were classed as farms under the Census definition.

### State Economic Areas

#### Value per Acre by Size of Tract

In the 1950 agricultural Census, Ohio is divided into several economic areas. Counties which are generally similar from the standpoint of agriculture, climate, topography, metropolitan development and other important characteristics are combined into economic areas. This combination permits more detailed analysis of certain agricultural data, including value of farm real estate, than would be possible for each county separately. Data for an economic area are approximately representative of each county within the area.

The Census separates the metropolitan counties from the surrounding rural counties in setting up the economic areas. For the purposes of this bulletin the metropolitan counties have been included in the same economic area with the surrounding rural counties. The boundaries of the state economic areas, with the metropolitan counties not separated, are shown in Figure 2.

TABLE 8. - AVERAGE CENSUS VALUE PER ACRE OF FARM REAL ESTATE IN VARIOUS SIZE CLASSES, BY STATE ECONOMIC AREAS, 1950

STATE ECONOMIC AREA (SEE CHART) FIG. 2	AVERAGE VALUE PER ACRE OF FARMS IN VARIOUS SIZE CLASSES												
	TOTAL OF ALL FARMS	UNDER 10	10-29	30-49	50-69	70-99	100-139	140-179	180-219	220-259	260-499	500-999	1000 AND OVER
STATE	\$137	\$1327	\$404	\$191	\$147	\$132	\$122	\$119	\$120	\$123	\$121	\$107	\$129
1	193	905	562	236	211	188	189	183	180	178	171	191	180
2	152	864	312	183	155	157	148	145	147	162	139	132	132
3	176	1452	424	251	197	180	165	160	157	161	158	140	168
4 A	203	2661	741	325	221	158	143	127	134	124	126	123	104
4 B	131	1377	391	188	162	135	117	108	109	111	109	75	168
5	154	1653	452	211	153	131	109	109	107	108	119	107	166
6 A	112	1046	307	159	130	107	104	98	91	97	104	116	55
6 B	69	865	242	123	89	79	63	55	54	54	55	47	45
7	114	1649	396	224	128	111	102	78	83	86	98	77	87
8 A	60	602	195	83	64	57	47	48	55	47	56	56	59
8 B	52	712	157	76	64	55	49	43	43	45	45	49	33

The above table shows the Census value per acre of farm real estate in various size classes for the different economic areas. The locations of the areas indicated are shown in Figure 2.

### Land Values by Counties

Table 9 has been compiled to show average farm real estate values by counties from 1850 to date. These are Census values (1953 estimate excepted) based on farmers' estimates of the average per acre market value of the land owned by them on a specified date. In times of rapidly rising prices, as since 1940, Census values tend to be lower than average farm real estate prices computed from actual sales; five to 15 percent lower in the few individual counties when sales data have been assembled.

The 1953 estimate of average value by counties is based on the percentage change indicated by the state index of farm real estate prices between March 1950 and 1953. Again, it is suggested, the value so determined tends to be lower than the average market price of all land in farms. On the other hand, it is more nearly representative of the average market price of farms containing 50 acres or more.

Figure 2. - Economic Areas, Ohio, 1950 Agricultural Census

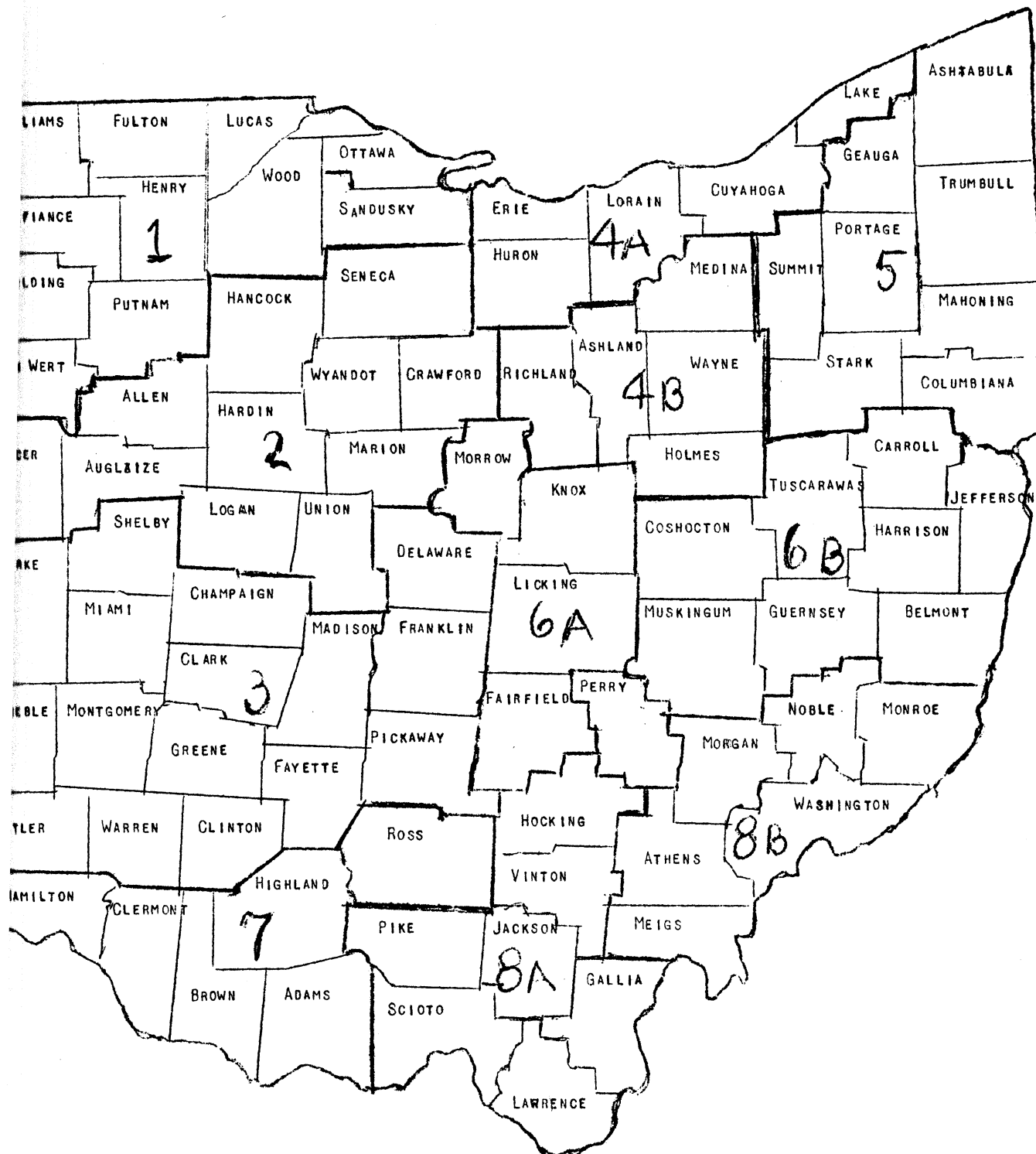


TABLE 9 - AVERAGE CENSUS VALUE PER ACRE OF FARM REAL ESTATE, OHIO COUNTIES, 1850-1945

	1850 (JUNE 1)	1860 (JUNE 1)	1870 (JUNE 1)	1880 (JUNE 1)	1890 (JUNE 1)	1900 (JUNE 1)
STATE	\$19.93	\$33.12	\$38.85	\$45.97	\$44.96	\$42.31
ADAMS	13	19	16	17	18	16
ALLEN	12	24	29	44	55	48
ASHLAND	21	37	44	44	55	40
ASHTABULA	11	27	34	35	36	32
ATHENS	11	19	21	25	26	25
AUGLAIZE	9	20	28	37	46	45
BELMONT	23	32	43	43	42	34
BROWN	22	31	27	33	33	30
BUTLER	38	61	72	70	53	50
CARROLL	17	24	38	47	39	29
CHAMPAIGN	20	38	49	55	50	45
CLARK	27	47	56	61	64	62
CLERMONT	25	45	47	41	36	30
CLINTON	22	40	42	44	48	46
COLUMBIANA	22	33	47	52	46	44
COSHOCTON	15	25	29	39	39	30
CRAWFORD	16	33	42	58	54	52
CUYAHOGA	24	47	69	81	99	120
DARKE	10	27	35	47	51	52
DEFIANCE	11	18	26	36	45	42
DELAWARE	16	21	42	47	45	40
ERIE	24	37	66	72	74	64
FAIRFIELD	22	36	46	51	52	46
FAYETTE	17	37	51	44	45	55
FRANKLIN	24	45	54	71	70	82
FULTON	11	22	34	45	50	50
GALLIA	9	15	20	22	17	19
GEAUGA	16	28	37	38	32	34
GREENE	25	49	51	68	56	53
GUERNSEY	14	33	29	31	29	24
HAMILTON	83	98	113	108	106	90
HANCOCK	12	27	33	54	57	50
HARDIN	11	22	25	40	43	43
HARRISON	21	30	46	40	41	32
HENRY	8	16	25	41	49	54
HIGHLAND	19	33	32	29	25	30
HOCKING	9	15	19	20	20	15
HOLMES	17	30	36	57	51	40
HURON	21	36	42	57	50	43
JACKSON	9	16	20	20	16	16
JEFFERSON	31	35	50	48	42	32
KNOX	19	33	42	52	44	35
LAKE	23	40	56	56	65	73
LAWRENCE	10	15	15	18	19	19

TABLE 9. - (CONTINUED)

	1910 (APR. 15)	1920 (JAN. 1)	1925 (JAN. 1)	1930 (APR. 1)	1935 (JAN. 1)	1940 (APR. 1)	1945 (JAN. 1)	1950 (APR.)	1953*
STATE	\$68.62	\$113.18	\$87.57	\$78.69	\$55.89	\$65.91	\$85.20	\$136.34	\$181.24
ADAMS	26	48	33	33	25	27	37	61	81
ALLEN	95	168	111	86	67	83	114	204	271
ASHLAND	62	90	71	57	44	40	64	101 -	134
ASHTABULA	47	77	79	84	57	54	65	111	148
ATHENS	29	42	37	36	26	29	30	57	75
AUGLIZE	84	148	97	81	59	76	103	165	219
BELMONT	52	66	59	56	37	42	45	75	100
BROWN	42	75	52	49	36	41	52	81	72
BUTLER	75	135	108	117	81	94	110	190	253
CARROLL	37	45	42	36	27	33	37	66	87
CHAMPAIGN	82	139	90	74	56	73	98	151	201
CLARK	92	154	120	91	75	92	120	183	243
CLERMONT	46	83	67	69	56	63	87	156	208
CLINTON	82	155	97	72	55	74	97	163	216
COLUMBIANA	55	72	75	71	51	51	67	116	154
COSHOCTON	37	52	45	43	34	36	45	63	84
CRAWFORD	82	120	95	76	52	63	94	132	176
CUYAHOGA	206	298	533	614	306	348	359	747	993
DARKE	101	165	114	89	67	80	116	187	248
DEFIANCE	81	135	97	77	52	69	89	138	183
DELAWARE	72	125	86	75	50	67	89	136	180
ERIE	99	138	119	117	89	88	102	172	229
FAIRFIELD	77	127	94	88	62	68	82	133	177
FAYETTE	96	186	108	79	71	81	104	160	213
FRANKLIN	115	195	154	162	92	128	134	217	288
FULTON	90	166	105	99	66	85	123	196	260
GALLIA	21	37	29	32	24	28	32	66	88
GEauga	50	90	105	138	66	88	107	175	233
GREENE	83	169	105	85	69	86	113	184	244
GUFFNEY	36	44	40	37	28	24	30	55	73
HAMILTON	116	159	151	209	155	228	252	376	410
HANCOCK	96	158	103	86	62	75	108	168	224
HARDIN	86	144	93	70	51	71	101	147	195
HAMILTON	46	58	47	39	31	31	34	53	71
HENRY	102	199	132	111	84	96	145	220	293
HIGHLAND	46	89	60	52	40	47	62	93	124
HOCKING	23	35	32	30	18	22	28	47	62
HOLMES	57	83	71	66	51	54	68	110	146
HURON	72	101	70	64	48	51	72	112	149
JACKSON	20	29	28	30	20	26	32	56	73
JEFFERSON	43	56	57	53	39	40	47	85	113
KNOX	60	88	67	57	38	45	61	88	117
LAKE	121	236	280	395	190	199	219	308	410
LAWRENCE	24	49	46	50	37	33	41	76	101

\* ESTIMATED BY APPLYING THE PERCENTAGE CHANGE INDICATED IN THE BAE INDEX, OF MARCH 1950 TO MARCH 1953, TO THE 1950 CENSUS VALUE PER ACRE.

TABLE 9. - (CONTINUED)

	1850 (JUNE 1)	1860 (JUNE 1)	1870 (JUNE 1)	1880 (JUNE 1)	1890 (JUNE 1)	1900 (JUNE 1)
STATE	\$19.93	\$33.12	\$38.85	\$45.97	\$44.96	\$42.31
LICKING	12	42	43	45	37	37
LOGAN	16	30	37	46	43	37
LORAIN	19	31	47	48	56	52
LUCAS	14	29	62	62	78	81
MADISON	14	30	39	43	45	50
MAHONING	24	39	47	53	49	44
MARION	12	28	31	47	47	46
MEDINA	21	34	43	53	51	44
MEIGS	11	21	24	22	24	20
MERCER	9	18	20	29	42	42
MIAMI	25	47	58	70	68	58
MONROE	10	19	19	25	26	26
MONTGOMERY	30	66	69	84	74	71
MORGAN	16	24	27	32	31	25
MORROW	16	31	42	54	42	38
MUSKINGUM	22	28	33	36	34	26
NOBLE	13	22	32	35	33	27
OTTAWA	11	29	26	58	66	72
PAULDING	12	12	16	21	36	38
PERRY	17	24	30	35	29	27
PICKAWAY	22	43	51	49	47	54
PIKE	12	19	16	16	16	15
PORTAGE	22	36	43	51	45	43
PREBLE	24	42	47	51	43	49
PUTNAM	10	18	24	38	50	50
RICHLAND	22	39	48	61	47	40
ROSS	23	24	34	37	35	33
SANDUSKY	15	30	44	66	69	70
SCIOTO	17	21	20	16	16	16
SENECA	20	34	46	64	53	55
SHELBY	14	24	31	37	43	40
STARK	26	43	58	78	65	58
SUMMIT	24	41	53	64	65	57
TRUMBULL	20	29	39	41	37	37
TUSCARAWAS	16	25	38	43	45	36
UNION	12	22	38	40	45	42
VAN WERT	8	16	22	33	45	47
VINTON	9	13	16	16	17	13
WARREN	36	44	61	57	41	47
WASHINGTON	11	28	25	28	26	26
WAYNE	28	46	57	80	65	54
WILLIAMS	10	43	29	41	49	43
WOOD	10	21	30	45	62	63
WYANDOT	13	27	36	46	50	45

TABLE 9. - (CONTINUED)

	1910 (APR. 15)	1920 (JAN. 1)	1925 (JAN. 1)	1930 (APR. 1)	1935 (JAN. 1)	1940 (APR. 1)	1945 (JAN. 1)	1950	1953*
STATE	\$68.62	\$113.18	\$87.57	<del>\$78.89</del>	<del>\$55.89</del>	\$65.91	\$85.20	\$136.34	\$181.24
LICKING	59	94	81	72	51	58	74	113	150
LOGAN	69	121	85	66	48	58	80	125	167
LORAIN	77	121	123	130	91	95	110	186	247
LUCAS	126	211	181	226	114	147	168	339	451
MADISON	86	156	101	71	54	75	89	159	211
MAHONING	71	106	110	104	86	81	102	156	208
MARION	86	158	100	75	51	67	89	144	191
MEDINA	62	113	101	104	64	81	104	166	221
MEIGS	26	38	36	35	24	28	30	55	74
MERCER	90	153	99	80	62	76	105	168	224
MIAMI	102	173	118	104	73	91	125	206	274
MONROE	32	44	33	32	22	24	27	41	55
MONTGOMERY	128	169	159	161	103	132	155	280	373
MORGAN	31	40	33	31	21	23	26	52	69
MORROW	62	95	67	55	38	47	73	106	141
MUSKINGUM	38	54	49	46	33	37	39	65	87
NOBLE	38	50	37	32	24	26	27	48	64
OTTAWA	114	164	134	136	97	97	124	213	283
PAULDING	99	187	104	85	59	79	97	157	209
PERRY	35	56	46	45	33	34	42	69	92
PICKAWAY	94	173	104	81	65	76	88	142	188
PIKE	22	35	34	33	23	25	32	59	79
PORTAGE	57	95	88	96	63	67	94	150	199
PREBLE	85	158	105	87	65	79	103	167	222
PUTNAM	105	174	117	101	71	87	121	186	247
RICHLAND	65	96	83	68	47	52	83	110	146
ROSS	56	91	66	56	42	49	55	93	123
SANDUSKY	101	143	110	108	75	86	117	175	233
SCIOTO	26	40	48	52	34	34	46	76	101
SENECA	86	128	88	86	57	64	97	135	180
SHELBY	83	142	93	75	59	64	97	165	220
STARK	88	138	117	125	94	102	128	170	225
SUMMIT	83	189	144	187	112	144	179	326	434
TRUMBULL	54	95	102	82	52	59	80	142	189
TUSCARAWAS	49	62	59	56	46	42	53	90	120
UNION	77	138	88	70	48	65	83	138	184
VAN WERT	100	195	115	88	74	91	128	199	265
VINTON	16	24	21	21	17	16	19	35	46
WARREN	69	119	96	86	67	81	90	160	212
WASHINGTON	34	50	43	45	32	32	39	59	79
WAYNE	79	119	95	91	70	77	106	165	220
WILLIAMS	73	128	88	68	53	65	94	137	182
WOOD	103	196	135	117	86	96	139	220	293
WYANDOT	82	133	86	72	53	65	91	143	190

